

Equipment Push

Phenix Construction Technologies, a division of M&B Engineering Ltd and part of the M&B Group, is a future-ready steel construction solutions provider that specialises in the design, manufacturing and installation of light to heavy and complex steel structures and pre-engineered buildings (PEB). This Gujarat-based company recently expanded their machine park with an HGG Multiple Profile Cutter (MPC 350). With the expectation to accelerate their production process and to improve overall cut quality, Phenix went looking for a CNC controlled machine that would cut their 3D profiles.

After some research HGG's MPC 350 turned out to be the best machine for the client's requirements. Girish Patel, Phenix' Technical Director explains: "With its ability to cut both, pipe and box sections, the MPC 350 gave us the opportunity to use one machine for two different applications. Furthermore, HGG's experience and high service level were also important factors influencing our decision for HGG."

After running for three-quarters now, Phenix became a satisfied user of the machine. Due to the accuracy of the machine, shorter time is needed for laying out, grinding is eliminated and fitting time is reduced to a minimum. All of these factors ensure that overall production has increased enormously. "As we can see now, the machine improves our production with approximately 40 per cent. Furthermore, we see that we can make better use of our employees, since grinding has practically become redundant," Patel explains.

Phenix uses the MPC 350 to cut pipes and box sections for all kinds of steel structures. The machine became an important factor in shortening Phenix' construction times. Patel adds: "Before, we had to do this manually gas cut and hand grinding which took us many hours. Having this machine, shortens our production process and gives us the opportunity to do more in less time".

The MPC 350

The MPC is a pipe cutting machine which can be configured to cut other profile shapes as well. This makes the MPC more flexible in situations where production volume does not justify a

HGG Improves Production of Steel Fabricators

MPC 350 improved production by 40 per cent

Girish Patel, *Technical Director*, Phenix Construction Technologies



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dedicated machine for profiling of pipe alone. The Multiple Profile cutter comes in several possible configurations making it a versatile multipurpose machine. These configurations allow the machine to cut pipes, box sections (SHS/RHS), sheet metal strips and a range of stiffener profiles like angle bars.

Configuration 1

In this configuration, pipes can be cut. In the pipe cutting configurations, no additional measurement is done and the machine can directly start cutting. This makes the MPC a highly efficient solution. This direct cutting is made possible by the usage of physical sensor arms that adapt the cutting path during the cutting process.

Configuration 2

In the second configuration, the machine allows to cut both square and rectangular hollow sections (SHS and RHS). The machine measures using "Metrology by Laser Vision" and compares the actual shape with the theoretical shape. This is done to prevent problems often encountered in the profiling of SHS/RHS like: Non-parallel plane (un-straightness of the four sides) and undefined or deviating radius in the corners of these hollow sections. These recalculating results in that deviation do not result in a poor fit but are compensated.

Configuration 3

In the third configuration, both flat plate (strips)

as well as complex profiles can be cut. The profile is placed on a cutting table and is scanned using the HGG technology 'Metrology by Laser Vision'. Both, end cuts as well as slots or holes, are easily cut in flat plate and a wide range of complex profiles.

Software as a Core

With in-house developed software and a 20+ software team, HGG is completely independent from third parties in their machine/software design. This enables HGG to integrate its software with all CAD systems worldwide. Together with Tekla, HGG has a software-related partnership that relates in a custom-designed connection between Tekla and HGG's software. This connection results in even further ease of use of the work preparation in advance before the actual process starts on the shop floor.

Furthermore, having in-house developed software enables HGG to influence the software lay-out and design. Last year, lot of attention was being put into developing a clean and efficient lay-out that lets the operator use the software intuitively and without ambiguities.

Customized Solutions

HGG is well-known for its sophisticated cutting machines. All of HGG's machines can be adjusted to fit customer-specific needs. This can be done with both machine specifications and machine options. Each machine can be adjusted to fit your specific profile length, dimensions and

profile weight. Options like marking, in and out feed systems, different pipe supports and software extensions enable the machine to be even more productive or versatile.

With more than 25 years experience in the industry, HGG has grown into an international group of companies specializing in 3D profile cutting. One arm of the company concentrates on the development and production of machines and software, while the other arm provides an extensive range of cutting services around the world. This unique combination, together with our passion to provide a tailor made solution for our customers, allows HGG to embrace all aspects of the industry.

Through constant communication with its customers and innovative design initiatives, HGG is constantly evolving in order to offer a unique package of products and services. As specialists in 3D profiling, the design and fabrication of cutting machines incorporates the specific characteristics of the industry for which they are intended.

The highly sophisticated CNC equipment from USA, Canada and Europe, coupled with sound engineering practices and efficient project management, helped Phenix deliver fast-track, cost-effective and superior solutions compliant with international quality standards.

Anil Kumar Gaddameedi, *Country Manager*, HGG Group

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